Conformance validation of graphical user interfaces

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Abstract
The authors address the **validation** of graphical user interfaces in their correctness or conformance to the required functionalities. A functional testing approach is presented with justifications. A **form** of state diagram (called WinSTD) has been developed in conjunction with a specification notation (called WinSpec) to formally state the valid **inputs** and outputs of user interfaces for conformance validation. An algebraic notation is used with path algebras, function decomposition and knowledge about interaction components to develop test selection criteria. A case study with a mail user interface program (called Xmail) has been made. The results of the Xmail case study indicate that this approach is effective. The authors have only generated 39 test cases, a relatively small number that can easily be handled by human testers. Human testers' visual verification of display objects is assisted by the use of WinSTDs. All display objects, functions and messages are tested at least once in these 39 test cases

Index Terms
Inspec
Controlled Indexing
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Non-controlled Indexing
WinSTD Xmail algebraic notation conformance **validation** function decomposition functional testing approach graphical user interfaces mail user interface program path algebras state diagram visual verification
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References

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